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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



In re application of:
Mathias SCHAFFORZ
Appl. No. 09/944,217

Filed: September 4, 2001

For: METHOD OF AND APPARATUS
FOR DIVIDING A WEB OF WRAPPING
MATERIAL

Art Unit: 3724
Confirmation No. 2647

Examiner: Stephen CHOI
Atty. Docket No. 31653-174372

Customer No.

26694
PATENT TRADEMARK OFFICE

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner in the Office Action mailed November 21, 2003 and the Advisory Action mailed February 5, 2004. A Notice of Appeal was filed on February 23, 2004.

A check for \$330.00 is attached. If no check is attached or the submitted fee is deficient, please charge Deposit Account No. 22-0261. This Appeal Brief is being submitted in triplicate.

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(1) REAL PARTY OF INTEREST

The Assignee of this application, and thus, the real party of interest in this appeal, is Hauni Maschinenbau AG of Hamburg, Germany.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

(3) STATUS OF CLAIMS

The claims involved in this appeal are set forth in the Appendix to this Brief. Claims 1-3, 7-12, 14-15, 18-22, and 29-31 have been finally rejected and are being appealed. Claims 5, 6, 16, 17 and 23-28 have been withdrawn from consideration as being drawn to nonelected species.

(4) STATUS OF AMENDMENTS

An Amendment After Final is being filed concurrently with the present Appeal Brief to overcome the objection to claims 18 and 19 and to overcome the rejection under 35 U.S.C. §112 of claims 19-22. Entry to the Amendment is respectfully requested as reducing the issues on Appeal. Claims 18 and 19 are listed in the Appendix as amended.

(5) SUMMARY OF THE INVENTION

As best shown by Fig. 1, the present invention is directed to a method and apparatus for dividing an elongated web 1 having a variable width into a plurality of elongated strips. The web 1 is advanced lengthwise in a predetermined direction along a

predetermined path 3, 4. The web 1 is then subdivided 6 into a plurality of strips 3, 4 by a cutting apparatus 7 that cuts the advancing web in at least one severing plane P-P. The web is typically split into two strips 3, 4 and advanced along second paths over a first pair of rolls 8, 9 and a second pair of rolls 13, 14. The width of each of the strips is monitored with monitors 26, 27 and signals denoting the monitored widths are generated. The signals are processed by a processor 28, and at least one of the web 1 and the severing plane P-P is shifted sideways as a result of a departure of at least one monitored width from at least one other monitored width.

(6) ISSUES

The following issue is presented to the Board:

Whether claims 1-3, 7-12, 14, 15, 18-22 and 29-31 are properly rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,627,319 to Mattei et al. ("Mattei"), or, in the alternative under 35 U.S.C. §103(a) as being unpatentable over Mattei.

(7) GROUPING OF CLAIMS

The claims are grouped as follows:

Group I - Claims 1-3, 7-12 and 14;

Group II - Claims 15, 18 and 29-31;

Group III - Claims 19, 21 and 22; and

Group IV - Claim 20

It is respectfully submitted that the above groups of claims are separately patentable and do not stand or fall together. The reason for this is that, while the arguments applicable to Group I are also applicable to Groups II-IV, there are additional arguments in favor of the patentability of each of Groups II-IV.

(8) ARGUMENTS

Group I

Claims 1-3, 7-12 and 14 are rejected under 35 U.S.C. §102(b) as being anticipated by Mattei or, in the alternative, as being obvious over Mattei.

Mattei is directed to a device for supplying webs 10, 11 of wrapping material to a cigarette making machine. The device divides a web 2 of wrapping material into two webs 10, 11 of identical width. The width of one of the divided webs 10 is monitored with detector device 33, and the width of the second divided web 11 is calculated. A deviation devices 5, 17 and 18 can displace the web as necessary to adjust the division of the web.

A. Mattei does not disclose the monitoring step of claim 1

Claim 1 is the independent claim in Group I, and recites the following:

- 1. A method of dividing an elongated web having a variable width into a plurality of elongated strips, comprising the steps of:
advancing the web lengthwise in a predetermined direction
along a predetermined path;
subdividing the web into a plurality of strips, including cutting
the advancing web in at least one severing plane;**

monitoring the widths of each of the strips and generating signals denoting the monitored widths;

processing said signals; and

shifting at least one of the web and the severing plane sideways when the processing step indicates departure of at least one monitored width from at least one other monitored width.

Thus, the monitoring step requires that each of the plurality of strips be monitored.

The Office Action admits that Mattei only teaches measuring the width of one of the two strips. See Office Action dated November 21, 2003, page 4, lines 12 and 13.

Accordingly, Mattei does not anticipate claim 1.

B. Mattei does not effectively measure the widths of both strips, as recited by claim 1.

The Office Action argues that measuring the width of one strip effectively measures the widths of both strips. See Office Action dated November 21, 2003, page 4, lines 12 and 13.

However, this is only true if the width of the undivided web is always the same, which is typically technically impossible. As is the case with any variable, the width of the undivided paper web is subject to random fluctuations. Claim 1 emphasizes this idea by specifying that the undivided, elongated web has "a variable width." According to Mattei, the elongated web does not have a variable width. Instead, Mattei measures the width of one of the divided strips and calculates the width of the other strip by subtracting it from the constant, undivided strip. Thus, in Mattei, any deviation in the width of the

undivided strip is fully shifted to the second strip, resulting in a double percentage deviation of the actual width.

Accordingly, the idea behind the present invention is to measure the width of all of the strips and to compare these values. As a result, a deviation of the partial strip widths is detected and compensated, thereby ensuring that all of the strips have an equal width.

As such, it is respectfully submitted that Mattei fails to teach measuring both strips, and that the method of Mattei is insufficient to determine the width of both strips.

C. Measuring the second strip in Mattei would not be obvious.

The Office Action argues that even if Mattei does not disclose measuring both of the strips, it would be obvious "to employ and additional means for monitoring...as it has been held that mere duplication of essential working parts of a device involves only routine skill in the art."

Employing a second monitoring means is not mere duplication. The claimed invention results in an advantage not contemplated by Mattei (removing deviations resulting from fluctuations in the width of the strip prior to separating). As such, Mattei would not consider it necessary to add the second monitoring means.

Mattei teaches away from such a modification. Column 4, lines 13-20 of Mattei state: "What has been stated up until now in relation to the detector device 33 applies only in part to the detector device 34 (see FIGS. 3 and 5) since this detector device 33 has solely the task of checking the lateral position of the web 11. It is obvious, in fact, that in order to obtain two webs 10 and 11 of identical width, it is sufficient to check and

correct the width of only one of the two." (emphasis added) Thus, Mattei explicitly states that two measurements are not necessary in the disclosed method and apparatus.

As such, it would not be obvious to modify the invention of Mattei as proposed by the Office Action. Accordingly, the rejection of claim 1 based Mattei is improper and should be reversed. Claims 2, 3, 7-12 and 14 depend from claim 1 and are allowable as depending from an allowable claim.

Group II

Claims 15, 18 and 29-31 are rejected under 35 U.S.C. §102(b) as being anticipated by Mattei, or in the alternative, as being obvious over Mattei.

Claim 15 is an independent apparatus claim and recites the following:

15. Apparatus for dividing an elongated web having a variable width into two strips, comprising:

means for advancing the web lengthwise in a predetermined direction along a predetermined path;

means for subdividing the web into two strips including a severing unit arranged to split the web in a severing plane;

means for monitoring the widths of each of the strips and for generating first signals denoting the monitored widths;

means for processing said first signals and for generating second signals when the widths of the strips deviate from each other; and

adjusting means including means for shifting at least one of the web and the subdividing means transversely of said direction in response to said second signals.

Apparatus claim 15 is similar to method claim 1, essentially reciting "means for" performing the method steps.

For example, claim 15 recites "means for monitoring the widths of each of the strips", which invokes 35 U.S.C. §112, sixth paragraph. In such instances, the Action must not only show that the prior art structure performs an identical function as that specified in the claim (i.e., a "monitoring" means), but that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function. MPEP § 2182.

The structure in the specification corresponding to the "monitoring means" are two devices or sensors 26, 27. See Specification, e.g., page 22.

The Action states that it is noted that "the claims do not require having two separate sensors to measure the width of each of the strips." To the contrary, because the specification requires separate sensors to monitor the width of the web, the "means for monitoring" of claim 15 requires separate sensors.

In any event, the Action has failed to provide a *prima facie* obviousness rejection of claim 15 with the "means for" limitations. As such, the rejection is improper and should be reversed.

Claims 18 and 29-31 depend from claim 15 and are allowable as depending from an allowable claim.

Group III

Claims 19, 21 and 22 are rejected under 35 U.S.C. §102(b) as being anticipated by Mattei, or in the alternative, as being obvious over Mattei.

Claims 19, 21 and 22 depend from claim 15, and are allowable as depending from an allowable claim.

Furthermore, claim 19 additionally distinguishes over Mattei by reciting the following:

19. The apparatus of claim 18, wherein said first pair of rolls are adjacent one side of said path and said advancing means further includes a second pair of rolls, each of the second pair of rolls engaging a different one of the strips, the rolls of said second pair being adjacent the other side of said path and having axes which are inclined relative to each other.

By way of example, in the present invention, Fig. 1 shows a first pair of rolls 8, 9 and a second pair of rolls 13, 14. Referring to Mattei, rolls 15 and 16 are the "first" pair of rolls. However, Mattei fails to disclose a second pair of rolls with inclined axis that each engage a different one of the strips. Mattei discloses a single roll 19 downstream of first pair of rolls, but roll 19 is only a single roll, does not separately engage a different strips, and does not have inclined axes.

Group IV

Claim 20 is rejected under 35 U.S.C. §102(b) as being anticipated by Mattei, or in the alternative, as being obvious over Mattei.

Claim 20 depends from claim 19 and claim 15, and is allowable as depending from allowable claims.

Furthermore, claim 20 additionally distinguishes over Mattei by reciting the following:

20. The apparatus of claim 19, wherein said monitoring means is disposed downstream of at least one of said first and second pairs of rolls as seen in said predetermined direction.

By way of example, in present invention, the monitoring means 26, 27 is disposed downstream of the first pair of rolls 9, 11 and the second pair of rolls 12, 13.

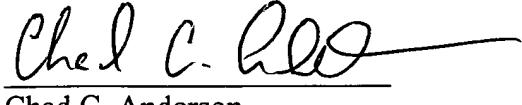
In Mattei, the monitoring means 33 is between the "first" rolls 15, 16 and the "second" roll 19. As such, Mattei does not disclose or suggest the features of claim 20. Accordingly, claim 20 is patentable over Mattei.

(9) CONCLUSION

For the foregoing reasons, it is respectfully submitted that each of the pending claims is patentable over the cited references. Accordingly, the Examiner's rejection of these claims should be reversed.

Respectfully submitted,

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APPENDIX

Claim 1. A method of dividing an elongated web having a variable width into a plurality of elongated strips, comprising the steps of:

advancing the web lengthwise in a predetermined direction along a predetermined path;

subdividing the web into a plurality of strips, including cutting the advancing web in at least one severing plane;

monitoring the widths of each of the strips and generating signals denoting the monitored widths;

processing said signals; and

shifting at least one of the web and the severing plane sideways when the processing step indicates departure of at least one monitored width from at least one other monitored width.

Claim 2. The method of claim 1, wherein said subdividing step includes splitting the web into two strips.

Claim 3. The method of claim 2, wherein said processing step includes comparing the signals denoting the widths of said two strips.

Claim 4. (canceled).

Claim 5. (withdrawn).

Claim 6. (withdrawn).

Claim 7. The method of claim 1, further comprising the step of advancing the strips along second paths.

Claim 8. The method of claim 7, wherein said step of advancing the strips includes establishing a variable spacing between said second paths.

Claim 9. The method of claim 8, wherein said monitoring step is carried out in said second paths.

Claim 10. The method of claim 8, wherein the establishment of said variable spacing includes changing the mutual inclinations of two neighboring successive increments of each of said second paths.

Claim 11. The method of claim 10, wherein said second paths slope downwardly from said at least one severing plane as seen transversely of said predetermined direction.

Claim 12. The method of claim 8, wherein said step of establishing a variable spacing includes shifting at least one of the strips sideways.

Claim 13. (canceled)

Claim 14. The method of claim 12, wherein said step of shifting at least one of the strips includes shifting only one of said strips sideways relative to the other of said strips.

Claim 15. Apparatus for dividing an elongated web having a variable width into two strips, comprising:

means for advancing the web lengthwise in a predetermined direction along a predetermined path;

means for subdividing the web into two strips including a severing unit arranged to split the web in a severing plane;

means for monitoring the widths of each of the strips and for generating first signals denoting the monitored widths;

means for processing said first signals and for generating second signals when the widths of the strips deviate from each other; and

adjusting means including means for shifting at least one of the web and the subdividing means transversely of said direction in response to said second signals.

Claim 16. (withdrawn).

Claim 17. (withdrawn).

Claim 18. The apparatus of claim 15, wherein said advancing means includes a first pair of rolls each engaging a different one of the strips, said first pair of rolls being rotatable about axes which are inclined relative to each other.

Claim 19. The apparatus of claim 18, wherein said first pair of rolls are adjacent one side of said path and said advancing means further includes a second pair of rolls, each of the second pair of rolls engaging a different one of the strips, the rolls of said second pair being adjacent the other side of said path and having axes which are inclined relative to each other.

Claim 20. The apparatus of claim 19, wherein said monitoring means is disposed downstream of at least one of said first and second pairs of rolls as seen in said predetermined direction.

Claim 21. The apparatus of claim 19, further comprising means for changing the level of at least one of said first and second pairs of rolls.

Claim 22. The apparatus of claim 21, wherein at least one of said first and second pair of rolls is disposed beneath the respective portion of said predetermined path.

Claim 23. (withdrawn).

Claim 24. (withdrawn).

Claim 25. (withdrawn).

Claim 26. (withdrawn).

Claim 27. (withdrawn).

Claim 28. (withdrawn).

Claim 29. The apparatus of claim 18, wherein said first rolls are disposed at a level below the respective portion of said predetermined path, the apparatus further comprising means for changing the level of at least one of said first rolls.

Claim 30. The apparatus of claim 29, wherein said processing means includes means for generating second signals denoting the combined width of the strips and said means for changing the level of the at least one roll is responsive to said second signals.

Claim 31. The apparatus of claim 30, wherein said processing means further comprises means for generating additional signals denoting the widths of the strips and the strip shifting means further includes means for changing the level of the other of the rolls in response to said additional signals.